

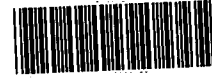
Drum and Soil Response Plan

Superfund Records Center

SITE: Oak Street

BREAK: 2.6

OTHER: 596831



SEMS DocID 596831

Oak Street Disposal Area Drum Removal Project

Oak Street
Taunton, Massachusetts

Date: **March 14, 2003**

Prepared For: **Zeneca Inc.**
Wilmington, DE

Prepared By:

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1.0 INTRODUCTION

Maverick Construction Management Services, Inc. (Maverick) has prepared this Drum and Soil Response Plan (DSRP) on behalf of Zeneca Inc. (Zeneca). The DSRP covers the removal of drums and of waste and highly contaminated soil within the drum interval at the Oak Street Disposal Area site (the "Site") in Taunton, Massachusetts.

The DSRP has been prepared to comply with the terms of the Administrative Order on Consent (AOC) CERCLA Docket Number 01-2003-0024 and its accompanying Scope of Work (SOW) between the United States Environmental Protection Agency (EPA) and Zeneca. This Plan is to be used in conjunction with other site-specific documents, including the Health and Safety Plan, (HASP), Air Monitoring Plan, Quality Assurance Project Plan (QAPP), and Community Relations Plan (CRP).

2.0 SITE BACKGROUND

The Site is approximately 1 acre in size. The Site is bordered to the north by vacant and partially wooded land, to the east by residential properties, to the west by vacant property which in turn abuts a public housing complex, and to the south by Oak Street. An elderly housing complex is located across Oak Street. The northern and eastern perimeters of the Site are sloped to a ravine. There is a chain link fence along two sides of the property.

3.0 OVERVIEW OF WORK TO BE PERFORMED

This DSRP was developed after a review of relevant federal and state regulations to determine which provisions would be applicable here. This DSRP also reflects past experience at similar drum removal projects, as well as information learned from the EPA removal activities at the Site.

In accordance with the terms of the Administrative Order (AOC) between Zeneca Inc (Zeneca) and the EPA, the following work will be performed at the Site:

3.1 Phase I – Site Setup

- Mobilization of necessary personnel and equipment;
- Setup of perimeter air-monitoring network;
- Setup of support services, health and safety equipment, and waste storage areas;
- Mobilization of a decontamination facility.

3.2 Phase II – Excavation

- Excavation and stockpiling of overlying soil to expose buried drums;
- Excavation of drums (or other containers) and of waste and highly contaminated soil associated with the drums (collectively, the "excavated waste material");
- Inspection, sampling, packaging and storage of drums and associated waste, and sampling and storage of highly contaminated soil associated with the drums, for offsite disposal;

- Backfilling of excavation;
- Decontamination of equipment;
- Site restoration.

3.3 Phase III – Disposal

- Characterization and disposal of excavated waste material;
- Characterization and disposal of EPA removal action waste material. EPA waste material remaining onsite consists of:
 - 75 overpacked drums,
 - 1 rolloff container with crushed empty drums (RCRA empty containers),
 - 3 rolloff containers with soil, and
 - Miscellaneous batteries, cylinders, and fuel containers;
- Transportation and disposal of excavated waste material at properly licensed offsite disposal facility.

3.4 Phase IV – Site Restoration, Demobilization, and Closeout

- Equipment decontamination
- Site restoration
- Demobilization
- Project closeout

4.0 PROJECT ORGANIZATION

Maverick will be responsible for both oversight and implementation of field activities. Maverick will provide written progress reports to the EPA on a monthly basis which fully describe all activities undertaken pursuant to the AOC. Maverick will provide an updated critical path schedule with each progress report. The schedule will clearly show the activities which have been completed, and those activities which are scheduled for the remainder of the project.

4.1 Key Personnel

Key personnel and contact information for the Oak Street Disposal Area Project are outlined below.

Zeneca Project Coordinator
Carol Dickerson
Zeneca Inc.
Office: (302) 886-5123

The Zeneca Project Coordinator serves as the Zeneca representative for the project. The Zeneca Project Coordinator is responsible for carrying

out the requirements of the AOC and is the official point of contact with the EPA. The Zeneca Project Manager will have direct interface with the Site Project Sponsor, as well as the Site Project Manager.

Project Sponsor

John Fiore

Maverick Construction Management Services, Inc.

Office: (508) 721-2227

Cellular: (617) 285-3241

The Project Sponsor is the person responsible for overall operations and resource management. The Project Sponsor will provide direction to the Project Manager for the duration of the project in accordance with the requirements of the Site Plans. The Project Sponsor will interact closely with the Zeneca Project Coordinator.

Project Manager

Ken Lafferty

Maverick Construction Management Services, Inc.

Office: (508) 721-2227

Cellular: (781) 389-0513

The Project Manager is the person responsible for implementing and directing field operations and ensuring that all operations are conducted in accordance with the requirements of the Site Plans. The Project Manager will be onsite full time and will provide direction to all field personnel.

Site Health and Safety Officer

Marc Langlois

Maverick Construction Management Services, Inc.

Office: (508) 721-2227

Cellular: (781) 589-6118

The Site Health and Safety Officer (SHSO) is responsible for directing the implementation of the Site Health and Safety Plan (HASP). The SHSO will conduct initial site-specific training and implement the Site Ambient Air Monitoring Plan (AAM), evaluate site hazards, determine levels of protection, and recommend other protective measures to the Project Manager. The SHSO will be onsite full time during field operations.

Health and Safety Coordinator (HSC)

Jim Gagnon

O'Reilly, Talbot & Okun

Office: (413) 788-6222

The Site Health and Safety Coordinator (HSC), a certified industrial hygienist, will be responsible for approving the HASP. The HSC will

conduct initial site-specific training and will remain available throughout the project for consultation and technical assistance. Although the HSC will not be onsite full time during the drum removal activities, the HSC will conduct periodic visits to the Site and provide feedback on health and safety issues at the Site.

4.2 Associated Work Plans

As required by the AOC, the following plans have been developed for this project. These plans will be used in conjunction with the DSRP to ensure that the drum removal activities are conducted in a safe, efficient manner.

4.2.1 Health And Safety Plan

The Health and Safety Plan (HASP) for this project was prepared in accordance with the requirements of Title 29, Code of Federal Regulations (CFR) Part 1910.120 to protect onsite personnel, visitors, and the public from physical harm and exposure to hazardous materials during the removal activities at the Site. The HASP was taken into consideration in developing this Plan and determining what equipment is required for activities at the Site. Where possible, personnel are kept at a distance from potential hazards by using equipment to conduct a task.

4.2.2 Ambient Air Monitoring Plan

Air monitoring will be conducted in accordance with the Site Ambient Air Monitoring (AAM) Plan. The objective of the Ambient Air Monitoring Program is to prevent nearby residents and support area personnel from being exposed to airborne hazardous substances at concentrations greater than applicable standards. The AAM Plan outlines the instrumentation and procedures for monitoring and recording the concentrations of airborne hazardous substances that may be emitted into the environment as a result of the drum excavation. Data which are collected will form the basis for any modifications of work practices and/or engineering controls to reduce emissions.

In the event that perimeter air monitoring indicates an alarm situation, all excavation activities will be stopped and the alarm situation will be immediately investigated. Upon verification of a valid perimeter air monitoring alarm, engineering controls will be assessed and additional engineering controls will be implemented. This Plan will be amended to include additional engineering controls or changes to work practices when the perimeter air monitoring alarm is triggered on a frequent or routine basis.

4.2.3 Community Relations Plan

The Community Relations Plan (CRP) identifies how the community will be kept informed of the Site activities, as well as how information will be conveyed to the surrounding residents, businesses, government officials, and the general community.

4.2.4 Quality Assurance Project Plan

The Quality Assurance Project Plan (QAPP) outlines the quality controls and measures to be implemented during sampling and analysis procedures at the Site. The purpose of the QAPP is to assure that all analytical results generated during the removal activities are of an appropriate quality to meet the data quality objectives.

4.3 Project Schedule

Maverick anticipates commencing implementation of this Plan in March, assuming appropriate regulatory approval. Drum removal is expected to begin approximately 1-2 weeks after mobilization at the Site. Contingent upon the number of drums encountered and conditions at the Site, Maverick anticipates the completion of excavation approximately eight weeks thereafter. Final disposal of excavated materials and demobilization would take place during the following 2-4 weeks.

The major project elements and corresponding schedule are set forth in Appendix A of this plan.

4.4 Project Documentation

Project documentation will be maintained onsite and used in the preparation of a closure report upon conclusion of the project. The following information, at a minimum, will be documented each day:

- Activities carried out;
- Manpower employed;
- Equipment utilized;
- Air monitoring / sampling data;
- Drum excavation logs;
- Health and safety incidents;
- Waste shipment documentation.

5.0 MOBILIZATION AND SITE SETUP

5.1 Mobilization

Upon receipt from EPA of written approval or conditional approval of this Plan, Maverick will initiate onsite mobilization activities, including mobilization of the following personnel and equipment at the Site.

5.1.1 Personnel

- Project Manager
- Field Foreman
- Health and Safety Technician
- Laborers / Field Technicians (3)
- Heavy Equipment Operators (2)

5.1.2 Equipment

- Pickup trucks (2)
- 322 Caterpillar hydraulic excavator equipped with long reach boom
- 430 Backhoe equipped with bucket and forks
- 150kw Diesel generator
- D5 Dozer
- Rolloff truck
- Health and safety equipment
- Miscellaneous drum handling equipment
- Air handling trailer and equipment

5.2 Site Setup

Site setup activities will be carried out to support the removal activities for the duration of the project. These activities will include:

- Setup of temporary air monitoring stations;
- Mobilization of support trailer;
- Mobilization of equipment storage containers;
- Mobilization of air treatment trailer.

6.0 EXCAVATION

6.1 Survey and Site Control

A Site grid system will be utilized for drum excavation operations. The Site will be divided into a twenty-five (25) foot grid system (oriented to the North). The grid system will be utilized to identify excavation areas and drum recovery locations and to ensure proper compilation of data. Drums will be inventoried as outlined in Section 6.3 of this Plan.

All excavation perimeters will be surveyed with a Trimble® 4700 differential GPS system to maintain control and provide documentation of excavated areas. This system will also be used to delineate the extent of waste and drums encountered during the excavations. The information that is generated will be periodically incorporated into the project record drawings and submitted as part of the closeout report at the conclusion of the project.

6.2 Material to be Excavated

In accordance with the AOC, the following types of materials within the drum-bearing interval will be targeted for excavation and management at the portion of the Site that has yet to undergo drum excavation. The material to be excavated consists of:

6.2.1 Drums or Other Containers Discovered During Removal Activities

Buried drums or other containers, as well as their contents, will be excavated and disposed offsite.

6.2.2 Non-Drummed Waste and Highly Contaminated Soils Within the Drum-Bearing Interval Discovered During Removal Activities

Non-drummed waste encountered within the drum-bearing interval will be excavated and disposed offsite if it is observed to have a consistency, color, and texture similar to drummed material containing at least one hazardous substance.

Soil that is determined to be highly contaminated with such waste on the basis of visual observation or because it meets the screening criteria set forth in Attachment A will also be excavated and disposed offsite. Such waste and soil are hereinafter referred to as Removal Action Waste or RA Waste.

The horizontal and vertical limit of excavation in the drum-bearing interval will be defined by visual confirmation that the drums have been excavated and that the soil is not significantly impacted by RA Waste (e.g., by the presence of native soil below the fill material), or by technical limitations of the excavation equipment.

6.3 Excavation Procedures

Excavation will begin at the location where the EPA drum removal work ceased in December 2002 and will progress in North / South sections. Each section will be approximately 10 – 20 feet in width.

A CAT 322 excavator, or its equivalent, will be the primary piece of equipment used to remove soil from the excavation and to extract drums. Due to the anticipated depth of the buried drums, the excavator will be equipped with an extended reach boom, approximately 60 feet in length and will operate from above the excavation. As needed, the excavation will be benched and the excavator will operate from the benched area. Additional information as it pertains to excavation safety is contained in the HASP.

In general, the upper layer of soil above the drum-bearing interval will be stripped and stockpiled to expose the drums. Based upon EPA drum removal activities, the thickness of the upper layer of soil is anticipated to be approximately 15 to 20 feet. This soil will be stockpiled away from the excavation in accordance with OSHA regulations. Drum excavation will occur as outlined in Section 6.3.1. After drum removal is completed within an excavation, clean fill and any of the excavated soil that did not exceed the screening criterion for offsite removal will be placed in the former drum-bearing interval. The stockpiled upper layer of soil will be used as backfill above the former drum interval. The remaining backfill will consist of clean material, as described in Section 6.3.2.

During the EPA removal activities, drums were encountered at the lower interval of the excavated depth, generally about 25 to 35 feet below ground surface. The native underlying material was observed to be a visually unimpacted light brown sandy layer. Drum excavation will likewise proceed to the depth that drums are encountered until underlying native soil is reached, unless that cannot be accomplished because of equipment limitations or because groundwater is encountered. If such an event should occur, then the best method for completing the excavation work will be further evaluated. However, based upon EPA removal activities to date, it is not believed that any such condition will be encountered.

RA Waste, which includes highly contaminated soil within the drum interval as described in Section 6.2, will be identified in the field and segregated and contained upon removal from the excavation. All RA Waste will be sent offsite for treatment and/or disposal. The remaining soils will be used as backfill in the excavation.

The extent of the excavation each day will be limited to the extent necessary to ensure that the exposed drums can be recovered before halting work, thereby minimizing emissions. Excavation spoils and clean fill will be used as backfill as described in Section 6.3.2. At the end of each day, rolloff containers will be covered and overpacked drums will be secured.

6.3.1 Drum Recovery

Drums (or other containers, which are encompassed by the following discussion) will be carefully uncovered and the excavated soil will be stockpiled a safe distance from the excavation. The excavator operator

will carefully expose drums and remove them from the excavation to a Drum Inspection Area, where an appropriately experienced person will visually observe the drum to ensure there are no signs of instability with respect to the drum contents. Drum pieces and drums that do not have any contents will be segregated and placed in a rolloff container for disposal as "RCRA empty" containers at an appropriate facility.

The Inspection Area will be located immediately adjacent to the excavation, thereby minimizing the lifting distance. Technicians will clearly mark each drum with a tracking number using a paint stick or other suitable marking device. The technicians will also record the following information on the Drum Inventory Log:

- Approximate date and time of removal/sampling;
- Drum location;
- Drum size;
- Drum type (e.g., steel, plastic, fiber);
- Container integrity (e.g., severely rusted, dented, crushed, leaking, deteriorated);
- Physical description of material (i.e., color, physical state, and approximate volume of material in the drum);
- Distinguishing markings, labels, lot #s, and serial #s identified on the drum;
- Type and size of secondary containment utilized (e.g., 55 gallon poly drum, 85 gallon salvage drum).

A sample of the Drum Inventory Log has been provided in Appendix B.

Once the above referenced information has been recorded, a sample will be collected for HAZCAT analysis and disposal characterization as detailed in Section 7.0. In the event unopened drums are recovered, they will be sampled after being bonded to common ground, with only non-sparking devices used to open them during sampling. As a health and safety precaution, all drums will be considered flammable until laboratory testing has been performed.

Drum sampling thieves will be used to sample each drum of liquid to minimize the potential for cross-contamination. Augers, scoops, spatulas, or other suitable devices will be utilized to sample solid materials and sludges. In the event that non-disposable sampling devices are used, they will be decontaminated between each sample. Decontamination will consist of four steps as outlined below:

- Water rinse;
- Detergent (TSP) water rinse/scrub;
- Clean water rinse;

- Final methanol rinse.

In order to quantify the volume of liquid, a stick with measured intervals will be used to identify the height of liquid within a drum. This measurement will then be utilized in calculations to establish the actual volume of liquid in each drum. Volumes will be included on all drum-tracking logs.

Once the drums have been sampled, they will be moved to the Drum Storage Area to await the HAZCAT results. The Drum Storage Area will consist of a containment area and will include a minimum of two fire extinguishers, inert absorbents, and overpack salvage drums.

6.3.2 Backfill

After completion of drum removal activities within the excavation, the former drum-bearing interval will be backfilled with clean fill material and any excavated soil from the interval that did not exceed the screening criterion for offsite removal. Clean fill materials will be certified by the analysis outlined below in this section. After backfilling of the drum interval, the overburden material will be used as backfill material. If the excavation area remains below the grade that existed prior to excavation, additional clean fill will be used to restore the Site to such grade. This clean fill will consist of dense grade aggregate or equivalent material to limit erosion by wind or precipitation.

Virgin soil for use as fill that is obtained from offsite sources will be inspected and documented by the Site Manager prior to delivery, as well as tested once initially. Testing of fill material will be conducted for Volatile Organic Compounds (Method 8260), Semi-volatile Organic Compounds (Method 8270), RCRA 8 Metals (Method 6010 / 7471), Pesticides (Method 8081), Herbicides (Method 8151), and PCBs (Method 8082). The results of this analysis will be compared with the Reportable Concentration S-1 Standards set forth at 310 CMR 40.1600. If the soil is observed to be below these standards, then it will be considered "certified clean fill". Should the offsite soils source change, the fill material will again be tested initially. If soil to be used as fill is obtained from offsite commercial sources, such soil will be sampled and analyzed for contaminants in accordance with 310 CMR 40.0000 *et seq.* If the offsite soil source changes, the material will again be tested initially.

6.4 Odor /Emission Controls

A number of engineering controls will be utilized as needed to control emissions from the excavated areas during the drum removal activities. It is possible that sensitive individuals may perceive nuisance odors. These odors, which are not necessarily a health and safety concern, will be controlled to the extent practical.

In addition to the control measures described below, the work will be conducted during the early spring when the temperatures are relatively low to reduce the likelihood of nuisance odors migrating from the excavation.

6.4.1 Air Handling Unit

An air handling and treatment unit to move and treat air from the immediate area of the excavation will be available at the Site. The air handling unit will be maintained onsite to control odors and emissions in the event that elevated airborne concentrations of volatile organics are detected. The air handling and treatment unit includes blowers to move air from the excavation through filter media (i.e. vapor phase carbon, or an equivalent medium) in order to discharge clean air.

The air handling and treatment unit will draw air from the excavation to minimize the potential for escaping odors and emissions from the excavation area to offsite receptors. The air handling unit will be mounted on a trailer with flexible ductwork to the excavation. Every effort will be made to discharge the emissions from the air handling unit away from potentially sensitive receptors. These efforts will be facilitated by the trailer which enables the equipment to move around the Site.

The filter media will be replaced as necessary from an onsite inventory. The SHSO will periodically conduct monitoring at the outlet of the air handling unit while in operation to detect the breakthrough of pollutants. Air monitoring information will be assessed and utilized to determine when to replace adsorbent vessels, as well as the need for additional air monitoring. Details of monitoring at the air handling unit are outlined in Section 7.2 of the AAM Plan.

6.4.2 Odor Control Agents

An odor control system will be maintained onsite and utilized as required to supplement the air handling system. The odor control system will consist of an explosion proof fan that will disperse an odor neutralizer in the event that nuisance odors are observed at the Site. An adequate supply of odor neutralizer will be kept onsite to support drum removal activities. Product information is included in Appendix C.

The purpose of the odor neutralizer is to alleviate nuisance odors generated from the drum removal activities that are not a health and safety concern. Past experience and review of the MSDS for the odor neutralizer indicates that this agent does not interfere with the functioning of the air monitoring equipment. If it is found to interfere with air monitoring instrumentation, alternative agents or products will be investigated for use at the Site. The SHSO and Project Manager will monitor the odors onsite and at the Site perimeter throughout the course of their daily activities.

The system will be activated if odors are noticeable at the Site perimeter. Upon determination that odors could be perceived as a nuisance, the SHSO/Project Manager will instruct field personnel to manually activate the odor control system.

6.4.3 Foaming Agents

A foam unit applicator will be staged near the excavation. The unit produces a thick, long lasting, and viscous foam barrier for immediate control of dust, odors, and volatile compounds. The material is biodegradable, non-hazardous, and non-combustible. An adequate supply of foam will be maintained onsite to support field activities. Product information and a Material Safety Data Sheet are included in Appendix C.

The foaming agent may be used when there are greater than expected emissions from the excavation, leaking or hissing drums, or failure of other engineering controls (i.e. air handling unit) which results in the triggering of perimeter alarms. The purpose of the foaming agents is to immediately alleviate or abate vapors from the excavation if the engineering controls that are in place at the time do not adequately abate the emissions. Application of the foaming agents will provide sufficient time to implement additional controls for handling the emissions.

6.4.4 Cover Materials

Situations may occur during the drum removal activities where emissions are difficult to handle. This could occur, for example, during an air handling equipment failure or when pressurized or hissing drums are discovered.

Sufficient clean material, as described in Section 6.3.2 will be maintained onsite to abate excavation emissions. Stockpiled material will be placed over the excavation to control emissions until adequate measures are implemented to properly control them. This will provide time for reassessment and planning.

6.5 Dewatering and Water Storage

Although not anticipated, drum excavations may extend to depths at which groundwater may be encountered. If groundwater is encountered, the excavation work will be stopped and reassessed by the project team.

7.0 WASTE HANDLING

7.1 Storage

All rolloff storage and drum storage areas will be located within a bermed area lined with polyethylene sheeting which will be replaced when ripped or degraded. Each area will contain spill response equipment consisting of such polyethylene sheeting, as well as absorbent pads, absorbent booms, Speedi Dry, self-contained breathing apparatus (SCBA), personal protective equipment (PPE), and hand tools.

All rolloffs will be visually inspected when they arrive at the Site and will be lined before material is placed in them. Rolloffs will be covered with a tarp and bow system immediately upon filling. Unused rolloff containers will be covered with a tarp and bow system when not in use. If needed due to odor migration, a secondary cover of polyethylene sheeting will be placed over a rolloff container and secured with duct tape until the container is transported offsite. The rolloff and drum storage areas will be posted as a hazardous material storage area.

The waste staging areas will be inspected by the Project Manager once per week and after each major rain event. Documentation of the inspection will be included in the daily report.

The Site will be manned at all times during the drum removal project, either by construction personnel during normal operation times, or security personnel during off hours. The purpose of continuous manning of the Site is to minimize the potential for direct contact or inhalation exposure by those involved in the removal activities, as well as by members of the public, who may inadvertently trespass onto the Site.

Analytical results, as described in Section 7.2, will be submitted with waste characteristic profiles to an approved facility for ultimate disposal. A proposed listing of disposal facilities is located in Section 7.3.

Pending acceptance at an approved disposal facility, each container placed in the secure storage area will be properly marked and labeled for storage in accordance with all applicable regulations pertaining to storage of hazardous waste and remediation waste. These regulations include, but are not limited to, 40 CFR Part 261, 40 CFR § 300.440, and 301 CMR §§ 40.0000 *et seq.*

Upon receipt of the waste at the CERCLA approved disposal facility, Maverick will receive and maintain copies of the appropriate signed manifests verifying acceptance and disposal.

7.2 Characterization

7.2.1 EPA Generated Waste

Waste material that remains onsite from the EPA removal activities will be handled in accordance with this Excavation Plan, with the exception that existing data may be used for characterization. In the event that existing data cannot be used for characterization, additional samples will be collected and used to characterize the waste.

Analytical results will be submitted with waste characteristic profiles to an approved facility for ultimate disposal. A preliminary listing of disposal facilities is provided in Section 7.3.

7.2.2 Drum Contents

Individual drum content samples will be provided to laboratory personnel for hazardous characteristics (HAZCAT) identification and subsequent compositing. At a minimum, all drum content samples will be individually tested for the following constituents:

- Ignitability
- Corrosivity
- Water solubility
- Water reactivity
- Cyanide reactivity
- Sulfide reactivity
- Oxidizing potential
- Volatility utilizing a Photoionization Detector.

Details of the procedures to be used in the HAZCAT process are outlined in Appendix E.

The goal of the drum contents characterization and analysis is to obtain the data necessary to determine how to safely and efficiently package and transport the wastes for offsite disposal, as well as creating waste type groups for disposal.

Individual drums of similar waste types will be grouped for disposal sampling. Similar drum materials will be determined by physical characteristics, as well as HAZCAT results. A composite sample of all drums in the waste type group will be created and the sample will undergo TCLP testing in a laboratory to identify any RCRA constituents.

Analytical results will be submitted with waste characteristic profiles to an approved facility for ultimate disposal. A preliminary listing of disposal facilities is provided in Section 7.3. Additional facilities may be added to this list.

7.2.3 Non-Drummed Waste

Non-drummed waste placed in rolloff containers at the time of drum excavation will be sampled for disposal characterization. Samples will be collected at the time of filling, by either continuously creating a composite as the container is filled, or by sampling of the container at three equidistant locations at three equal depths.

Analytical results will be submitted with waste characteristic profiles to an approved facility for ultimate disposal. A preliminary listing of disposal facilities is provided in Section 7.3. Additional facilities may be added to this list.

7.3 Transportation and Disposal

All hazardous substances, pollutants, or contaminants to be removed offsite will be treated, stored, and disposed in compliance with all applicable regulations and as specified at 42 U.S.C. § 9621(d)(3) and 40 C.F.R. § 300.440. Hazardous waste determinations will be made, and manifests completed, on the basis of analytical results generated during the drum removal activities and upon knowledge of the waste, as specified in 40 CFR § 262.11 and 310 CMR § 30.302. Facilities that are selected for offsite treatment, storage, or disposal of waste materials will be approved for the receipt of CERCLA waste at the time of shipment.

All state and federal requirements for offsite transport of both drummed and bulk waste will be met, including the requirements that apply to manifests, bills of lading, and other shipping papers. In addition, shipping containers and transport vehicles will be labeled and placarded in accordance with all applicable requirements, including the DOT regulations set forth at Title 49 of the Code of Federal Regulations.

Maverick will prepare any required Uniform Hazardous Waste Manifests and associated shipping documentation and will receive and maintain copies of the appropriate signed manifests verifying acceptance by the facility to which the waste is shipped.

Although selection of these offsite facilities will depend upon various factors, such as type of material, means of shipment, and volumes, the following is a list of facilities under consideration for acceptance of hazardous materials from this project:

- Horizon Environmental (Canada) Landfill disposal of soil in rolloffs
- Bennett Environment (Canada) Landfill disposal of soil in rolloffs

- LWD, Inc. Incineration of drums and/or non-drummed waste in rolloffs or overpacks
- Ensco, Inc. Incineration of drums and/or non-drummed waste in rolloffs or overpacked drums

Additional information on the facilities under consideration will be submitted under separate cover.

Attachment A

1. Screening Procedure and Criterion for the Drum Bearing Interval

Role of Field Screening

Within the drum-bearing interval, non-drummed waste similar to that found in drums which contain at least one hazardous substance, as well as highly contaminated soils commingled with drums will be identified and segregated primarily on the basis of visual classification.

Specifically, non-drummed wastes and soil commingled with drums which are observed to have a consistency, color, and texture similar to the material in drums will be classified as RA Waste and will be loaded into rollofs for characterization and offsite transport, as described in Section 6.2 of the Drum and Soil Response Plan. Soils commingled with the drums in the drum-bearing interval that are not visually distinguishable as RA Waste will be field-screened using a Photoionization Detector (PID) to determine whether they also constitute RA Waste. The PID screening threshold will be a reading of 1000 ppmv, based on the screening criterion derivation described below. The horizontal and vertical limit of the excavation will be defined by visual confirmation that the drums have been excavated and that the soil is not significantly impacted by RA Waste (e.g., by the presence of native soil below the fill material), or by the technical limitations of the excavation equipment.

Screening Procedure

Soils excavated from the drum-bearing interval that require screening will be stockpiled in increments of ten cubic yards or less for sampling. Three grab samples will be obtained from each stockpile, contained in glass jars until reaching room temperature, and screened using the headspace method (MA DEP, 1996). The average of these measurements will be compared to a screening criterion of 1000 ppmv as measured with a PID calibrated to an isobutylene standard. Stockpiles with average PID readings exceeding this criterion will be contained in rollofs and further characterized for offsite disposal.

Screening Criterion Derivation

Analysis of composite drum samples and soil collected at the Site shows that toluene is the primary constituent of most drummed material, and that ethylbenzene, xylene, chlorobenzenes, TCE, and TCA are also present (see Figure 1). All of these chemicals are readily detectable using a field PID.

At the Route 44 Site, PID screening was performed on a number of samples that were also analyzed to quantify individual VOCs. Figure 2 charts PID readings for samples collected at that site against the toluene concentration and total VOC content of those samples. This figure shows that concentrations of toluene and total VOCs are low at PID screening values below 1000 ppmv. In addition, no exceedances of the Massachusetts Department of Environmental Protection (MA DEP) leaching-based S-2/GW-3 standards¹ were measured for any of the samples with PID readings less than 1000 ppm, whereas exceedances of these standards were frequently measured

¹ These standards are set forth in MA DEP's Massachusetts Contingency Plan (MCP). GW-3 is the applicable groundwater category at the Site because the water table is greater than 15 feet below the ground surface in the drum removal area, and because it is not located within a potential drinking water source area.

for samples with PID readings above 1400 ppmv. This relationship suggests that a PID screening value of 1000 ppmv is appropriate for determining what soils may pose a potential threat to groundwater. It should be noted that the MA DEP S-2/GW-3 standard is a conservative screening level numerical standard, and does not necessarily indicate a risk of significant harm.

On February 4, 2003, GeoSyntec collected composite soil samples from the three rolloff containers that EPA used to store material excavated from the Site, including visually impacted soils at the Site. PID headspace readings were greater than 2000 ppmv for each of these composite samples. Laboratory analytical data, summarized in Table 1 below, indicates that two of the three samples exceeded the MCP's S-2/GW-3 standard for toluene. One sample (WS-02) did not exceed the S-2/GW-3 standards, but still had a jar headspace reading greater than 2000 ppmv. Although this is a limited data set, it indicates that a 1000 ppmv headspace screening criterion is likely to be conservative for the Oak Street Site.

Table 1: VOC Analytical Results for Composite Roll-Off Samples

| Compound | <u>Detected Concentration</u> (mg/kg) | | | <u>S-2</u> <u>GW-3</u> (mg/kg) |
|--------------|--|-------|--------|--------------------------------------|
| | WS-01 | WS-02 | WS-03 | |
| Toluene | 9,500 | 320 | 13,000 | 1,000 |
| Ethylbenzene | | 26 | | 500 |
| Xylenes | 150 J | 118 | | 1,000 |
| 1,1,1-TCA | | 9 | | 500 |
| TCE | 91 J | 8.8 | | 100 |

2. Alternative Screening Procedure and Criterion for the Drum Bearing Interval

An alternative field screening procedure and criterion for the drum-bearing interval may be proposed to, and approved by, EPA. Such an alternative procedure and criterion would address how highly contaminated soil commingled with drums would be identified for offsite removal.

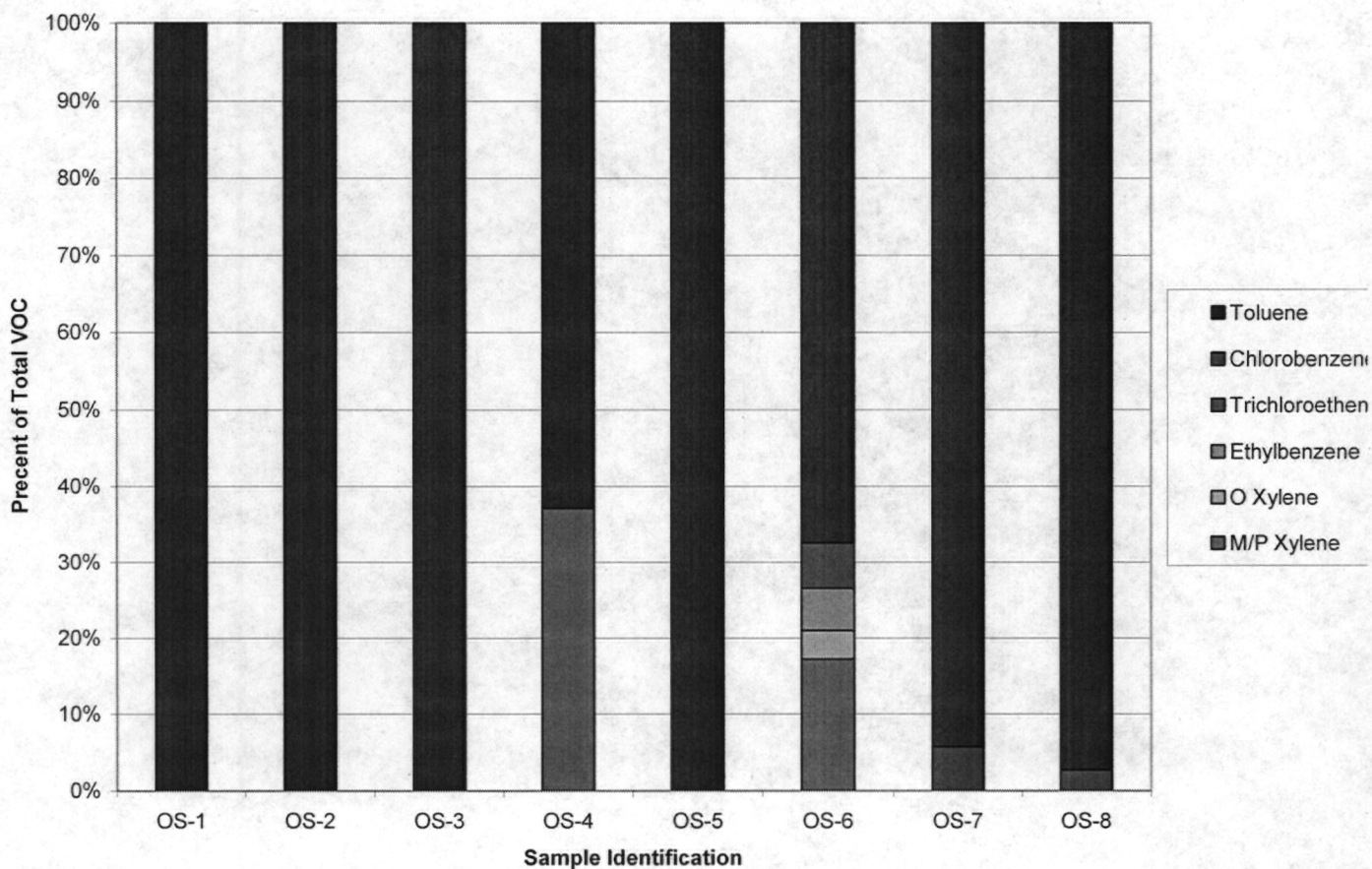
Notes:

1. Jar headspace readings for all three rolloff samples were greater than 2000 ppmv.
2. The samples were collected on February 4, 2003, and analyzed by the Woods Hole Group.
3. J – Compound detected below method quantitation limit; estimated value provided.

References

MA DEP, 1996, Underground Storage Tank Closure Assessment Manual, April 1996, Policy #WSC-402-96, Appendix A, Jar Headspace Analytical Screening Procedure.

Figure 1. VOC Composition
Oak Street Site Drum Contents



Note: 1,1,1-trichloroethane was detected in one sample (OS-7) at a concentration of 15 mg/kg. It was not detected in the other drum samples.

Figure 2. Comparison of Headspace PID Readings to Toluene and Total VOC Measurements for Rte 44 Site Soils

